Louisiana Department of
Wildlife & Fisheries
Research and Assessment Division
Louisiana Marine Biological Laboratory

Research

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New Marine Lab Takes Shape

Myron Fischer

Despite the setbacks caused by recent hurricanes, the new Marine Biological Laboratory is near completion. Located in the center of Grand Isle, this state of the art facility will serve as a research hub for LDWF biologists, as well as university research and cooperative efforts with other states.

The new Marine Lab complex consists of a 12,000 square foot laboratory containing a wet lab, dry lab, library, conference room, offices and many other work areas.

An adjacent dormitory building has 13 bedrooms, two bunk rooms, bath facilities, a kitchen, dining and entertainment area, large conference room and a laboratory for visiting researchers. A covered boathouse has slips to accommodate 14 vessels and the underside of the lab building will serve as a hatchery area for both shellfish and finfish. Also on site is a large maintenance area.

The new Lab, built at the end of Ludwig Street, will be accessible by water, air and highway. The projected completion timeline has the main lab building, boathouse and maintenance shop ready by May.

Inside this Issue:

Marine Fisheries—Fecundity

Julia Lightner

Fecundity studies focus on the reproductive ability of a species and the coastal biologists of Wildlife and Fisheries are involved in this research. Most anglers in southern Louisiana know that the summer months are the spawning season for spotted (speckled) seatrout. Anyone who has cleaned a speckled trout in January and then another in July can see the difference in the size of the egg sac. Luckily for us, trout actually spawn every four to five days between the months of April and September. One of the most popular recreational species in Louisiana, speckled trout release millions of eggs each year. Not only that, the species begins to spawn at only one year old, which makes it very successful in reproduction.

This is some of the research that biologists with the department of Wildlife and Fisheries conduct every day. Speckled trout from our samples are thoroughly examined and many parts are removed for further evaluation. Each trout caught in a sample is measured and weighed, the stomach contents are examined, the otoliths (ear bones) are removed and during the spawning season, the reproductive organs are removed, preserved and examined. All of this information is used in the state's speckled trout stock assessment, to determine the health of the population.

Most trout caught in coastal Louisiana are two year olds, which means that the trout in your ice chest have already spawned a few times before they are caught. LDWF biologists have studied the survival rates of trout caught on single hooks versus treble hooks, live bait versus artificial bait. Research shows most trout caught and released do survive.

What does all of this research have to do with the average angler? Trout over twelve inches are generally one year or older, have spawned several times, and if you catch an undersize trout and release it, there's a pretty good chance it will survive to grow and spawn many times until it can be caught and kept legally. Releasing an undersize trout does benefit the fishery resource and can create trophy trout memories for anglers later on.

Governor Jindal Dedicates Elmer's Island

Brian Hardcastle

In a press conference at the Grand Isle Community Center in mid-December, Governor Jindal announced that a portion of Elmer's Island has been dedicated as Louisiana's newest Wildlife Refuge and is now open to the public for recreational use.

Claiming Louisiana is truly a "Sportsman's Paradise," Governor Jindal called Elmer's Island "certainly one of our state's jewels." Elmer's Island has been closed to the public since 2001. After the legal research was completed it was determined that a 250-acre tract of land belongs to the state. The new wildlife refuge is currently accessible only by boat. The state will continue to negotiate with the Elmer family to purchase part or all of the remaining property known as Elmer's Island. Long term plans include creating a public access road to the island to allow easier access to the refuge. LDWF Secretary Robert Barham confirmed, "After exhaustive legal research, it has been determined that the Goat Island property, which is the barrier island portion of the property generally referred to as Elmer's Island, is state land. By designating it a wildlife refuge, the property will be available for fishing and outdoor activities including bird watching, shell collection and nature photography. The only permit needed for site use will be a fishing license for those who choose to do so."

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Brief Grand Terre Timeline

Robert Boothe

- August 2005—Hurricane Katrina devastates the Marine Lab site impacting a killing blow to the main lab building and new dorm.
- Fall 2005— The kitchen is converted into a clerical office and research is halted.
- The Age & Growth section along with other slots are transferred out.
- Ground is broken on the new lab facility which has been in the planning for a decade.
- Coastal Study Area III is relocated to New Orleans.
- September 2008—Hurricane Gustav causes structural damage, fills the entrance and basin with sand and severs the sub-sea power line supplying electricity.
- The fifty year old generator powers the remaining buildings for a short period, but eventually goes down.
- Due to the generators age and lack of available parts, we were now in the dark.
- Entergy spokesman says it will be May before electricity is restored.
- The Marine Lab crew moves into a local apartment. At one time we have 8 people and 7 available beds. A second room is rented in mid-December but conditions are still cramped.
- Work goes on and no samples are missed.
- New lab opens May 2009!!

The Grand (Terre) Welcome

Clint Edds

I interviewed in early January 2008, with the Marine Lab as a fisheries biologist and was elated to hear that the Department had interest in me. Unfortunately, the state went under a hiring freeze. After the freeze was lifted, I re-interviewed and was selected. My first day of work was August 25, 2008. It was hard to believe, but finally my dream job had been acquired. A small town Kentucky boy was now living on a barrier island in the Gulf of Mexico, with a beach front view from my bedroom. The fairy tale dream however quickly vanished into serious reality by the end of the week. The reality's name was Hurricane Gustav, and he was as real as it gets. I had no idea of what to expect. The lab went into immediate evacuation mode. It was the most orderly chaos that I had ever been a part of. We returned to Grand Terre a week after Gustav had his way with the lab. It took about a day for the devastation to totally sink in. It was almost as if I was viewing the world through a TV. The first few weeks we all commuted from home each day, Hammond in my case. We finally fired the generator up and went back to business as usual. In addition to our usual work, we had to repair some of the damages caused by Hurricane Gustav. With prior construction experience, I helped rebuild the wooden ramp up to our shop, the stairs that led to our elevated dorm building, and replace the many shingles that Gustav scattered across the island. After all necessary repairs had been made, we were starting to settle down on Grand Terre. During this chaos and reconstruction, no sampling sets were missed. Then, the generator, our sole power source since the Entergy cable was severed by Gustav, now died, and we were on an island in the dark. No electricity, no food, no lights. If this is not The Grand (Terre) Louisianan Welcome, then I don't know what is.

Home For Christmas Staff

The Louisiana Department of Wildlife and Fisheries (LDWF) is involved in many aspects of mammal, reptile and amphibian strandings. Recently, department biologists along with the Aquarium of the Americas were involved with the rehabilitation of a sea turtle. The Aquarium of Americas maintains a rehabilitation center at their facilities and when they determine the animals are ready to be released they find an appropriate place for the animal to return to its natural environment. In this case the Aquarium contacted LDWF for assistance and on a cold December day a group including LDWF Secretary Barham, enforcement agents, marine biologists and Aquarium staff gathered to release the latest successful sea turtle to recover.

After a fast boat ride offshore to an oil platform, Secretary Barham was able to release the turtle to allow it to return home for Christmas.

Fish Sampling Techniques Used by Marine Biologists Schuyler Dartez

Marine fisheries biologists use many different types of gear and sampling techniques for collecting finfish data. The gear and sampling methods must be consistent throughout the years to maintain time series survey data. The data collected includes, but is not limited to: species, length, mass and sometimes sex. With consistent and sound data, better inferences, comparisons and projections can be generated to help various species thrive. Biologists use seine nets to sample fish in relatively shallow water (less than 4 feet deep) near land. These nets are generally 50 feet long with PVC poles tied to the ends of the net. Seines are pulled through shallow water by a boat or field staff wading in the water. This funnels fish into a netted bag in the middle of the seine. Once the seine is brought ashore, biologists can collect all of the organisms in the net. This is a great technique for sampling juvenile finfish, shellfish and other marine organisms. Other common fish sampling techniques include the use of trammel nets and gill nets. Trammel and gill nets are 750 feet long with an anchor and a float buoy on each end. The net has a top float line which keeps the top of the net at the water's surface, while the bottom lead line sinks and spreads the net open. Trammel nets are six feet deep, made of nylon string and catch medium and large fish. The net consists of three walls of mesh net. The inner wall has 1 and 5/8 in. bar mesh and the two outer walls are made of 6 in. bar mesh. Fish swim through the large mesh but get hung up in the small mesh.

Gill nets are slightly different from trammel nets. Gill nets are eight feet deep and use monofilament line. They are made up of five 150-foot panels of 2 in., 2.5 in., 3 in., 3.5 in., and 4 in. stretched bar mesh. The increasing mesh size targets small to medium-sized fish.

Both trammel and gill nets are used in similar fashions. After the nets are set in the water, the vessel operator runs the boat around the net three times. This panics the fish into the net which is then retrieved from the water. Fish are collected, identified and measurements are recorded.

All of the collected data, coupled with hydrological data (air temperature, wind speed and direction, water temperature, conductivity, salinity, and turbidity) is statistically analyzed and allows managers to assess the state of fish populations to ensure productive fishing seasons for recreational anglers.

Other sampling equipment used by biologists at the Marine Lab include 6- foot balloon otter trawls, 16-foot flat otter trawls, plankton nets, Butler plates and oyster dredges. The sampling techniques associated with this equipment will be discussed in detail in later issues of this newsletter.

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MRFSS (Marine Recreational Fisheries Statistics Survey)

Suzy Delaune

Marine Recreational Fisheries Statistics Surveys (MRFSS) are creel surveys that are conducted not only in most of the Gulf States (Texas has their own survey system) but along all coastal states in the U.S.

The surveys measure "catch per effort" data for our recreational fishery. Basically this means that the Marine Fisheries Division tries to find out what's being caught by what percentage of the fishing population in the Gulf and surrounding areas. This information is extremely important and used for different reasons such as population estimates, formulating regulations, socio-economic data, etc., to ensure a productive fishery for generations to come.

The only way to get this valuable information is through one-on-one surveys with the public, presenting a series of questions and weighing and measuring random angler's catch. Sometimes biologists may even extract the fish ear bones, called otoliths, which are used to age fish, a methodology similar to how trees are aged. This project is not a part of the MRFSS survey, but when the fish are available, bone samples for age and growth studies are collected. All of our survey interview subjects are strictly voluntary and surveys are done in accordance with the Privacy Act of 1974.

...that our recreational fisheries will not only continue to be viable today, but abundant for future generations to enjoy.

Division biologists survey in all fishing modes including private boats, charter boats and shore anglers alike. Likewise, because this is a Gulf-wide project, fishermen in Florida receive the exact same survey questions as Louisiana fishermen. The Gulf States data is forwarded by each state to the Gulf States Marine Fisheries Commission in Ocean Springs, MS. Data is compiled, summarized and analyzed by various state and federal fishery agencies including NOAA Fisheries and LDWF.

So remember, if you're fishing and see a white LDWF-decaled truck approach, it's probably one of our friendly biologists stopping to survey you about your fishing trip results. (Here's a tip: research vehicles are almost always white, sometimes gray, and enforcement vehicles are typically green or black.) Taking time to answer a few questions is the best way to assist LDWF and our fisheries resource research. The nationwide cooperation among states, combined with cooperation from the public for this valuable information, ensures that our recreational fisheries will not only continue to be viable today, but abundant for future generations to enjoy.